

**RARE EARTH METAL OXIDE MEMORY ELEMENT
BASED ON CHARGE STORAGE AND METHOD FOR
MANUFACTURING SAME**

ABSTRACT

5 A data storage element (and method of forming the same) includes a
substrate comprising a semiconductor material, a metal oxide layer including an
electrically insulating rare earth metal oxide disposed upon a surface of the
substrate, a conductive material disposed upon the metal oxide layer, a first
electrode electrically connected to the conductive material, and a second electrode
connected to the substrate.
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